

भारत सरकार / GOVERNMENT OF INDIA
रेल मंत्रालय / MINISTRY OF RAILWAYS
(रेलवे बोर्ड / RAILWAY BOARD)

No.2016/EnHM/13/02

Dt.10.05.2023

**The General Managers,
All Zonal Railways & PUs,
CMDs & MDs of all PSUs/CTIs under M/o Railway
DGs of RDSO and NAIR.**

Sub: Installation of Atmospheric Water Generators (AWGs).


Ref: This office's letter of even no. dated 13.05.2016 (copy enclosed).

Water is the most precious natural resource on this planet and the lack of it is the biggest existential crisis that our planet is facing. Many regions of our country are facing severe water scarcity and sparse resources in tandem with a growing population disrupt the demand and supply balance making the availability of potable water for the population a formidable task.

2. To combat the problem of water scarcity, many technologies are being invented. One such technology is Atmospheric Water Generators (AWGs) which harvest the fresh water from air. This mechanism can be installed at manned level railway crossings, small railway stations, railway hospitals, railway staff quarters, railway offices situated at water scarce locations and at any other location as deemed fit by the authority. Further, this technology can also be run on renewable energy and thus providing sustainable and eco friendly solution of potable water.

3. Vide annexure to the letter under reference, a list of permissible work areas/ items was also circulated to Railway establishments which can be covered under ERW. Railways may install Atmospheric Water Generators (AWGs) under the permissible work/areas under item 10 (water efficient fixtures) of the listed environment related works considering technicality and cost comparison with other solutions/means available for providing potable water. It may however be ensured that there is no violation of CPCB guidelines while adopting this technology in your unit.

Encl: As above (04 pages)


(Shailendra Singh)
Executive Director/ME(EnHM & Proj.)
Railway Board

**Government of India
Ministry of Railway
Railway Board**

No. 2016/EnHM/13/02

New Delhi, Dt. 13.5.2016

The General Managers,
All Indian Railways

**Sub.- Provision for Environment related works in the Estimates for
Works**

1. Railway is the most energy efficient transport as compared to road and air modes. Accordingly, strengthening and augmentation of rail network enables modal shift of passenger and freight traffic to Railways which helps in reducing GHG emissions. Apart from this, Indian Railways on their own also need to take additional measures to protect and contain the impact on environment due to their activities.
2. Presently, there is no provision in most of the estimates for executing environment related works in Railways, warranting sanctioning of separate works at times. In some cases, measures required for mitigation of environmental impact lag behind or get ignored altogether resulting in adverse effect on environment on completion of the work.
3. Indian Railways, in its commitment towards cleaner environment as also the need to comply with various statutory obligations from time to time, has decided to incorporate specific provisions towards environmental costs in the estimates for works. Accordingly, it has been decided as under-
 - (i) Environment related works shall be an integral part of Works Estimates of all Plan Heads except Plan Head-17 viz. 'Computerisation'.
 - (ii) Provision for all environment related works should be thoroughly assessed and made in itemised form in the Estimates for Works.
 - (iii) Where itemised provision is not contemplated/could not be assessed at the stage of preparing estimate, a lumpsum provision equivalent to one percent of the cost of work to facilitate execution of required environment impact mitigation works as found necessary later, may be kept to address the environmental concerns. However, itemised provision and Lumpsum provision shall not co-exist in the estimate.
 - (iv) Beside all future works, such provision(s) towards the cost of environment related works may be made in all the existing sanctioned works also where detailed estimate is not yet sanctioned.
 - (v) The scope of environmental work proposed to be executed through the 1% LS provision of a specific project estimate need not bear relation to the scope of the main work/project as environment impact mitigation works cannot be limited to project boundaries.

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- (vi) A list of permissible work areas for environment impact mitigation is annexed. The list is exhaustive and any other work would require prior approval of Board.

4. Methodology for sanction and execution of such works-

- (i) Zonal Railway (ZRs)/Division and Production Units (PUs)/Other Units shall identify all environment related works (limited to those in the list detailed in Annexure) at various locations within their jurisdiction and the cost every year and take the administrative approval of DRM. Such works shall be coordinated/ managed by EnHM wing on ZRs/Division. In PUs/Other Units and where EnHM wing on ZRs is not yet in place, GM may nominate a nodal department for the purpose. This wing/department shall also be responsible for prioritisation of works to be undertaken within Railways/Divisions/PUs. Prioritisation of works shall be done at HQs level with the approval of GM.
- (ii) Such environment related works/installations may have to be executed/provided at Station(s), Workshops, PUs/Other Units, mid section and any other service buildings. The power of approval/sanction of such works chargeable to various estimates shall be at par with the powers delegated to ZRs/PUs for sanctioning new work under concerned Plan Heads e.g. A work of water recycling plants (WRPs) at/serving the station(s) (chargeable to 1% provision of estimates) up to Rs. 2 Cr. (at par with power of sanctioning a new work under PH-53 'Passenger Amenities') can be sanctioned by GM; a work of WRP at Workshops/PUs etc., up to Rs. 1 Cr. can be sanctioned by GM (at par with the powers delegated for sanctioning new work under PH-42 or PH-64). Sanctioning/approval of any consultancy study would also be governed by the framework of existing delegations by Board.
- (iii) The works chargeable to EBR(IF) may be excluded for the purpose of lumpsum provisioning towards environment works.
- (iv) In Zonal Railway, Division shall be responsible for drawing up plan, estimate and execution of such works.
- (v) Such approved works within Zonal Railway shall figure in separate Annexure under the heading "Environment Related Works under lumpsum provision of identified estimate" and the works will continue to figure in list of approved works (LAW) till its completion and closing of accountal.
- (vi) At the time of processing/sanctioning of such works within the railway, provisioning from the identified estimate should be clearly mentioned duly certified by the Unit in-charge of the particular work/estimate. The list of these works in LAW should also have the references of such provisioning along with the expenditure incurred.
- (vii) Such environment works shall be taken up for execution after ensuring the availability of reasonable outlays for the same.

[Signature]

[Signature]

(viii) Such works should generally be completed within two years.

(ix) The LS provision towards environment in the estimate can be used within the Zonal Railway.

This issues with the concurrence of the Finance Directorate of the Ministry of Railways.

DA-as above.


(Dēsh Ratan Gupta)
Executive Director/EnHM(CE)
Railway Board

No. 2016/EnHM/13/02

New Delhi, Dt. 13.5.2016

1. The Principal Directors of Audit, All Indian Railways.
2. Dy. comptroller and Auditor General of India (Railways), Room No. 224, Rail Bhavan, New Delhi.


For Financial Commissioner/Railways

No. 2016/EnHM/13/02

New Delhi, Dt. 13.5.2016

Copy to FA & CAOs, All Indian Railways

Copy to:-

1. PCEs, CMEs, CEEs, CCMs, All Indian Railways
2. AM (CE), AM(W), AM (Elec.), AM (ME), AM (PU), AM (Sig.), AM (Tele.), AM (F), Adv, (L&A), Adv. (Br), Railway Board.
3. CAOs (Construction), All Indian Railways
4. ED(W), ED(Signal), ED (Tele), ED(Elec.), ED(Accounts), ED(RE), EDE(GC), EDF(E), ED(PSU), Railway Board.
5. FX-I, FX-II Branches of Railway Board.
6. DG/NAIR, DG, RDSO and other CTIs.
7. CMDs/MDs, All Railway PSUs.

(Board's letter no. 2016/EnHM/13/02 dt. .5.2016)

Environment related works/items

1. Water conservation works i.e. Rain Water Harvesting, Water recycling plant etc.
2. Sewage treatment plant
3. Effluent Treatment plant
4. Solid waste management solutions e.g. waste to compost, waste to energy plants etc.
5. Eco-friendly faecal treatment/disposal arrangements.
6. Solar energy plants including PV modules for off-grid applications e.g. for hospitals, stations, office building, colonies, LC gates, signaling equipments etc.
7. Energy efficient lighting fixtures
8. Afforestation including development of green areas
9. Use of Green Building features in built up space to be constructed/renovated etc.
10. Water efficient fixtures
11. Protection and/or improvement of water bodies in railway land which helps in recharging the aquifer.
12. Measures for mitigation of Air & Water pollution during construction & operation
13. Construction and Demolition waste recycling Plant
14. Measures for natural air-conditioning of the building including geo-thermal cooling.
15. Environment related studies including water audit and/or energy audit and works relating to implementation of recommendations of such audits.
16. Environment related monitoring devices and tools

Any other item required as per local Regulations and Court order for upkeep of environment.

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